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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,593	11/13/2003	Khurram Muhammad	TI-34776	8991
23494	7590	10/21/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			LE, DINH THANH	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2816	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/712,593	MUHAMMAD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	DINH T. LE	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-15,21-23 and 26-35 is/are rejected.
- 7) ☒ Claim(s) 4,5, 16-20, 24-25 and 36-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **FINAL REJECTION**

The proposed corrections for the drawings are approved.

### ***Claim Rejections***

#### ***Claim Rejections - 35 USC § 112***

Claims 2-3, 6-15, 22-23 and 26-35 remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction or clarification is required.

In claim 2, it is unclear what the “high order filter devoid of amplifiers” on line 3 is and how the filters and the means for direct sampling on line 1 can implement the high filter devoid of amplifiers and how this limitation is read on the preferred embodiment or seen on the drawings. The same is true for claims 6, 22 and 26.

In claim 3, it is unclear how the recitation “means . . . mixer” on lines 1-2 is read on the preferred embodiment. Insofar as understood, no such means is seen on the drawings. The same is true for claims 23 and 25.

In claim 7, it is unclear how the filters can create a unit-directional flow of information, signal or charge, what they are and where they come from. The same is true for claim 27.

In claim 8, the description of the present invention is incomplete because the capacitors and the capacitors banks are not connected to anything. Thus, the claimed capacitor and the capacitor banks may not perform the recited function. The same is true for claim 28.

In claim 9, it is unclear how the capacitor can be “reset” since no means for performing the resetting function is recited in the claim. The same is true for claim 29.

In claim 10, it is unclear how the recitation “comparator” and “negative feedback loop” is read on the preferred embodiment. Insofar as understood, no such loop and comparator are seen on the drawings. The same is true for claim 30.

In claim 12, it is unclear how the RF input signal can be minus a negative feedback signal since no means for performing the subtracting function is recited in the claim. The same is true for claim 32.

The remaining claims are dependent from the above claims and therefore also considered indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-7, 21-23 and 26 –27 are rejected under 35 USC 102 (b) as being anticipated by Simon et al (GB 2230627).

Simon et al discloses in Figures 4-6 a second order filter comprising a cascaded a single pole IIR filters ((50, 50', 50'') to form a high order filter for generating an output signal (Yn) from an input signal (Un+3).

With regard to claim 3, means for direct sampling having multi-tap direct sampling mixer is read on the mixers (74).

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Claims 1, 6, 21 and 26 are further rejected under 35 USC 102 (b) as being anticipated by Lee et al (US 5,732,002).

Lee et al discloses in Figure 1 a filter comprising a cascaded a single pole IIR filters (14, 16, 18, 20) to form a high order filter for generating an output signal (34) from an input signal (32).

### ***Response to Applicant's Arguments***

The applicant argues that Simmon et al does not provide a solution to an analog problem of implementing high order passive analog IIR filter and Lee does not show an analog filter implementation . The arguments are not persuasive because it is biased the limitation which is not recited in the rejected claims. There s nothing recited in the rejected claims about the implementing solution or analog filter implementation. The phrase “A discrete time analog filter) on line 1 of claim 1 is recited in the preamble so that it is not given any patentable weight. Thus, the limitation “a cascaded single pole IIR filters” remains readable in the Simmon et al reference and Lee reference.

### ***Allowable Subject Matter***

The applicant's arguments over the rejection under 35 USC 112, second paragraph, is not persuasive because the claims still include unclear recitation as stated above. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claims 4-5, 8-20, 24-25 and 28-40 would be allowable if rewritten to overcome the

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rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The claims are allowed because the prior art of record does not show the filter comprising (i) at least one amplifier stage as combined in claim 4, (ii) the capacitors as combined in claim 8, (iii) the comparator and a negative feedback loop as combined in claim 10, and (iii) solely of switches and capacitors as combined in claim 16.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

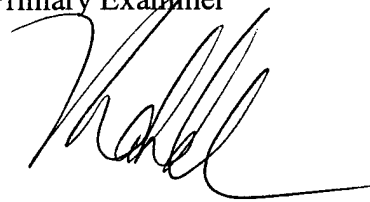
Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY CALLAHAN can be reached at (571) 272-1740.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DINH LE  
Primary Examiner

A handwritten signature in black ink, appearing to read 'Dinh Le', with a long horizontal flourish extending to the right.

19 October 2005